

SEQUENCE LISTING

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B1 <120> THERAPEUTIC APPLICATIONS OF mFLINT POLYPEPTIDES

<130> 040902/0136

<140> US 09/280,567

<141> 1999-03-30

<150> US 60/113,407

<151> 1998-12-22

<150> US 60/112,933

<151> 1998-12-18

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<150> US 60/112,577

<151> 1998-12-17

<150> US 60/099,643

<151> 1998-09-09

<150> US 60/086,074

<151> 1998-05-20

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<151> 1998-03-30

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<170> PatentIn Ver. 2.0

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 Ala Leu Pro Ala Leu Leu Pro Val Pro Ala Val Arg Gly Val Ala Glu
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aca ccc acc tac ccc tgg cgg gac gca gag aca ggg gag cgg ctg gtg 144
 Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45

tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cgg ccg tgc cgc cga 192
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
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gac agc ccc acg acg tgt ggc ccg tgt cca ccg cgc cac tac acg cag 240
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
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ttc tgg aac tac ctg gag cgc tgc cgc tac tgc aac gtc ctc tgc ggg 288
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95

gag cgt gag gag gag gca cgg gct tgc cac gcc acc cac aac cgt gcc 336
 Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110

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 Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125

cac gca tgc tgt cca cct ggt gcc ggc gtg att gcc ccg ggc acc ccc 432
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140

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 145 150 155 160

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 Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175

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 Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu
 180 185 190

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 Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
 195 200 205

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Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile
 210 215 220
 tcc atc aag agg ctg cag cgg ctg ctg cag gcc ctc gag gcc ccg gag 720
 Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu
 225 230 235 240
 ggc tgg ggt ccg aca cca agg gcg ggc cgc gcg gcc ttg cag ctg aag 768
 Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys
 245 250 255
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 Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
 260 265 270
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 Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met Pro Gly Leu
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 35 40 45
 Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60
 Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80
 Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95
 Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110
 Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125
 His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140

Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
145 150 155 160

Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
165 170 175

Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu
180 185 190

Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
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Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile
210 215 220

Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu
225 230 235 240

Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys
245 250 255

Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
260 265 270

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Ser Leu Leu Cys Leu Val Leu Ala Leu Pro Ala Leu Leu Pro Val Pro
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gct gta cgc gga gtg gca gaa aca ccc acc tac ccc tgg cgg gac gca 147
Ala Val Arg Gly Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala
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gag aca ggg gag cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt 195
Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe
45 50 55

gtg cag cgg ccg tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt 243
Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys
60 65 70

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Pro Pro Arg His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg
75 80 85

tac tgc aac gtc ctc tgc ggg gag cgt gag gag gag gca cgg gct tgc 339
Tyr Cys Asn Val Leu Cys Gly Glu Arg Glu Glu Ala Arg Ala Cys
90 95 100 105

cac gcc acc cac aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc gcg 387
His Ala Thr His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala
110 115 120

cac gct ggt ttc tgc ttg gag cac gca tcc tgt cca cct ggt gcc ggc 435
His Ala Gly Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly
125 130 135

gtg att gcc ccg ggc acc ccc agc cag aac acg cag tgc cag ccg tgc 483
Val Ile Ala Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys
140 145 150

ccc cca ggc acc ttc tca gcc agc agc tcc agc tca gag cag tgc cag 531
Pro Pro Gly Thr Phe Ser Ala Ser Ser Ser Ser Glu Gln Cys Gln
155 160 165

ccc cac cgc aac tgc acg gcc ctg ggc ctg gcc ctc att gtg cca ggc 579
Pro His Arg Asn Cys Thr Ala Leu Gly Leu Ala Leu Ile Val Pro Gly
170 175 180 185

tct tcc tcc cat gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc 627
Ser Ser Ser His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu
190 195 200

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Ser Thr Arg Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp
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ttt gtg gct ttc cag gac atc tcc atc aag agg ctg cag cgg ctg ctg 723
Phe Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu
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cag gcc ctc gag gcc ccg gag ggc tgg gct ccg aca cca agg gcg ggc 771
Gln Ala Leu Glu Ala Pro Glu Gly Trp Ala Pro Thr Pro Arg Ala Gly
235 240 245

cgc gcg gcc ttg cag ctg aag ctg cgt cgg cgg ctc acg gag ctc ctg 819
Arg Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu
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ggg gcg cag gac ggg gcg ctg ctg gtg cgg ctg ctg cag gcg ctg cgc 867
Gly Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg
270 275 280

gtg gcc agg atg ccc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc 915

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936

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 35 40 45

Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60

Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80

Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
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Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110

Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125

His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
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Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160

Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
 165 170 175

Leu Gly Leu Ala Leu Ile Val Pro Gly Ser Ser Ser His Asp Thr Leu
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Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala
 195 200 205

Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile
 210 215 220

Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu

225 230 235 240

Gly Trp Ala Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys
 245 250 255

Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu
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cgg	ctg	gtg	tgc	gcc	cag	tgc	ccc	cca	ggc	acc	ttt	gtg	cag	cgg	ccg	96
Arg	Leu	Val	Cys	Ala	Gln	Cys	Pro	Pro	Gly	Thr	Phe	Val	Gln	Arg	Pro	
			20					25					30			
tgc	cgc	cga	gac	agc	ccc	acg	acg	tgt	ggc	ccg	tgt	cca	ccg	cgc	cac	144
Cys	Arg	Arg	Asp	Ser	Pro	Thr	Thr	Cys	Gly	Pro	Cys	Pro	Pro	Arg	His	
			35				40					45				
tac	acg	cag	ttc	tgg	aac	tac	ctg	gag	cgc	tgc	cgc	tac	tgc	aac	gtc	192
Tyr	Thr	Gln	Phe	Trp	Asn	Tyr	Leu	Glu	Arg	Cys	Arg	Tyr	Cys	Asn	Val	
	50					55					60					
ctc	tgc	ggg	gag	cgt	gag	gag	gag	gca	cgg	gct	tgc	cac	gcc	acc	cac	240
Leu	Cys	Gly	Glu	Arg	Glu	Glu	Glu	Ala	Arg	Ala	Cys	His	Ala	Thr	His	
65					70				75					80		
aac	cgt	gcc	tgc	cgc	tgc	cgc	acc	ggc	ttc	ttc	gcg	cac	gct	ggt	ttc	288
Asn	Arg	Ala	Cys	Arg	Cys	Arg	Thr	Gly	Phe	Phe	Ala	His	Ala	Gly	Phe	
				85				90						95		
tgc	ttg	gag	cac	gca	tcg	tgt	cca	cct	ggt	gcc	ggc	gtg	att	gcc	ccg	336
Cys	Leu	Glu	His	Ala	Ser	Cys	Pro	Pro	Gly	Ala	Gly	Val	Ile	Ala	Pro	
			100				105					110				
ggc	acc	ccc	agc	cag	aac	acg	cag	tgc	cag	ccg	tgc	ccc	cca	ggc	acc	384
Gly	Thr	Pro	Ser	Gln	Asn	Thr	Gln	Cys	Gln	Pro	Cys	Pro	Pro	Gly	Thr	
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Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn
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tgc acg gcc ctg ggc ctg gcc ctc aat gtg cca ggc tct tcc tcc cat 480
Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His
145 150 155 160

gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc agc acc agg gta 528
Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val
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cca gga gct gag gag tgt gag cgt gcc gtc atc gac ttt gtg gct ttc 576
Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe
180 185 190

cag gac atc tcc atc aag agg ctg cag cgg ctg ctg cag gcc ctc gag 624
Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu
195 200 205

gcc ccg gag ggc tgg ggt ccg aca cca agg gcg ggc cgc gcg gcc ttg 672
Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu
210 215 220

cag ctg aag ctg cgt ccg ccg ctc acg gag ctc ctg ggg gcg cag gac 720
Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp
225 230 235 240

ggg gcg ctg ctg gtg ccg ctg ctg cag gcg ctg cgc gtg gcc agg atg 768
Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met
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260 265 270

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Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
35 40 45

Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val
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Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His
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Cys	Arg	Arg	Asp	Ser	Pro	Thr	Thr	Cys	Gly	Pro	Cys	Pro	Pro	Arg	His	
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tac	acg	cag	ttc	tgg	aac	tac	ctg	gag	cgc	tgc	cgc	tac	tgc	aac	gtc	192
Tyr	Thr	Gln	Phe	Trp	Asn	Tyr	Leu	Glu	Arg	Cys	Arg	Tyr	Cys	Asn	Val	
	50					55					60					
ctc	tgc	ggg	gag	cgt	gag	gag	gag	gca	cgg	gct	tgc	cac	gcc	acc	cac	240
Leu	Cys	Gly	Glu	Arg	Glu	Glu	Glu	Ala	Arg	Ala	Cys	His	Ala	Thr	His	
	65				70				75						80	
aac	cgt	gcc	tgc	cgc	tgc	cgc	acc	ggc	ttc	ttc	gcg	cac	gct	ggg	ttc	288
Asn	Arg	Ala	Cys	Arg	Cys	Arg	Thr	Gly	Phe	Phe	Ala	His	Ala	Gly	Phe	
				85					90					95		
tgc	ttg	gag	cac	gca	tgc	tgt	cca	cct	ggg	gcc	ggc	gtg	att	gcc	cgc	336
Cys	Leu	Glu	His	Ala	Ser	Cys	Pro	Pro	Gly	Ala	Gly	Val	Ile	Ala	Pro	
			100					105					110			
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Phe	Ser	Ala	Ser	Ser	Ser	Ser	Ser	Glu	Gln	Cys	Gln	Pro	His	Arg	Asn	
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Cys	Thr	Ala	Leu	Gly	Leu	Ala	Leu	Asn	Val	Pro	Gly	Ser	Ser	Ser	His	
	145				150					155					160	
gac	acc	ctg	tgc	acc	agc	tgc	act	ggc	ttc	ccc	ctc	agc	acc	agg	gta	528
Asp	Thr	Leu	Cys	Thr	Ser	Cys	Thr	Gly	Phe	Pro	Leu	Ser	Thr	Arg	Val	
				165					170					175		
cca	gga	gct	gag	gag	tgt	gag	cgt	gcc	gtc	atc	gac	ttt	gtg	gct	ttc	576
Pro	Gly	Ala	Glu	Glu	Cys	Glu	Arg	Ala	Val	Ile	Asp	Phe	Val	Ala	Phe	
			180					185					190			
cag	gac	atc	tcc	atc	aag	agg	ctg	cag	cgg	ctg	ctg	cag	gcc	ctc	gag	624
Gln	Asp	Ile	Ser	Ile	Lys	Arg	Leu	Gln	Arg	Leu	Leu	Gln	Ala	Leu	Glu	
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Ala	Pro	Glu	Gly	Trp	Ala	Pro	Thr	Pro	Arg	Ala	Gly	Arg	Ala	Ala	Leu	
	210					215					220					
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Gln	Leu	Lys	Leu	Arg	Arg	Arg	Leu	Thr	Glu	Leu	Leu	Gly	Ala	Gln	Asp	
	225				230					235					240	
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Gly	Ala	Leu	Leu	Val	Arg	Leu	Leu	Gln	Ala	Leu	Arg	Val	Ala	Arg	Met	
				245					250					255		
ccc	ggg	ctg	gag	cgg	agc	gtc	cgt	gag	cgc	ttc	ctc	cct	gtg	cac		813
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Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
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Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val
50 55 60

Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His
65 70 75 80

Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe
85 90 95

Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro
100 105 110

Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr
115 120 125

Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn
130 135 140

Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His
145 150 155 160

Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val
165 170 175

Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe
180 185 190

Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu
195 200 205

Ala Pro Glu Gly Trp Ala Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu
210 215 220

Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp
225 230 235 240

Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met

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 Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His
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<210> 10
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 <212> DNA
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<220>
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 aagcgc 66

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37